UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/235,919	09/19/2011	Andrew VAKHUTINSKY	T9049-19498US01	8233

74739 7590 07/07/2017		EXAMINER
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ART UNIT	PAPER NUMBER
3628	

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NOTIFICATION DATE	DELIVERY MODE
07/07/2017	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte ANDREW VAKHUTINSKY,
ALEXANDER KUSHKULEY, and MANISH GUPTE

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Appeal 2016-001904
Application 13/235,919[1]
Technology Center 3600

_____

Before DEBRA K. STEPHENS, SHARON FENICK, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

ENGLE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of
claims 1–4, 6–13, 15–20, and 22, which are all of the claims pending in the
application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Technology

The application relates to a system that "determines a revised price on
a pricing ladder for a product over a pricing markdown period." Spec.
Abstract. Claim 1 is illustrative and reproduced below:

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[1] According to Appellants, the real party in interest is Oracle International
Corp. App. Br. 2.

1. A non-transitory computer readable medium having instructions stored thereon that, when executed by a processor, cause the processor to determine a revised price on a pricing ladder for a product over a markdown period, the determination comprising:

for a first time interval (t) of the markdown period (T), compute an optimal price ($p^*(t)$) for the product based on an inventory level ($I(t)$) of the product, wherein the inventory level is based on a ratio of a current on-hand inventory at the first time interval and a maximal on-hand inventory;

determine if the optimal price is less than a current price ($p(t)$) of the product; and

when the optimal price is less than the current price of the product, assigning a lower price on the price ladder as the current price of the product and repeat the compute[2] the optimal price and determine if the optimal price is less than the current price of the product for the next time interval of the markdown period;

when the optimal price is not less than the current price of the product, maintain the current price and repeat the compute the optimal price and determine if the optimal price is less than the current price of the product for the next time interval of the markdown period;

wherein the optimal price causes revenue for the product over the markdown period to be increased in comparison to a non-optimal price;

wherein assigning a lower price on the price ladder comprises:

select two adjacent prices (p_1 and p_2) from the price ladder, wherein $p_1 < p^*(t) \leq p_2$; and

set the current price $p(t)$ based on a comparison of a ratio $(p^*(t) - p_1)/(p_2 - p^*(t))$ to a predetermined threshold parameter.

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[2] In the event of further prosecution, Appellants may wish to amend to clarify the meaning of "repeat the compute the optimal price", which appears twice in claim 1.

Rejection

Claims 1–4, 6–13, 15–20, and 22 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 3–5.

ISSUE

Did the Examiner err in concluding the pending claims are directed to ineligible subject matter under 35 U.S.C. § 101?

ANALYSIS

We adopt as our own the findings and reasons set forth by the Examiner in the Answer and the action from which this appeal is taken. We highlight the following specific findings and arguments for emphasis.

The Supreme Court has "long held" that patentable subject matter under 35 U.S.C. § 101 "contains an important implicit exception" that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (quotation omitted). "Issues of patent-eligible subject matter are questions of law and are reviewed without deference." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1369 (Fed. Cir. 2011). To determine patentable subject matter, the Supreme Court has set forth a two-part test. *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014).

Step One

"First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts" of "laws of nature, natural phenomena, and abstract ideas." *Alice*, 134 S. Ct. at 2355. A court must be cognizant that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas" (*Mayo*, 566 U.S. at 71), and

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"describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Instead, "the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

Here, the Examiner concludes "the abstract idea is [to] 'merely manipulate input data to determine markdown price data.' This idea actually falls into at least two recognized categories of abstract ideas: fundamental economic practices and mathematical relationships/formulas." Ans. 2.

Appellants argue "the Examiner is ignoring most of the limitations of the claims." App. Br. 3–4. We agree with the Examiner, however, that an Examiner's summary of the abstract idea in a claim need not recite every limitation verbatim, as evidenced by Supreme Court and Federal Circuit precedent and the Examiner's thorough analysis of the abstract idea in *Alice*. Ans. 3–5. Appellants argue that beyond the abstract idea stated by the Examiner, the claims further recite a "price ladder," yet Appellants have not sufficiently explained how that price ladder changes the claims from being directed to determining a markdown price — a fundamental economic practice. App. Br. 4. For example, the Specification broadly teaches a pricing ladder can be "a schedule of prices used by the seller" (Spec. ¶ 25).

We also are not persuaded by Appellants' argument that the Examiner must provide further evidence that the claimed pricing is a fundamental economic practice. App. Br. 4. The Examiner correctly and thoroughly explained that patentable subject matter under § 101 is a question of law;

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analogized the claims here with claims in guidance from the Supreme Court, Federal Circuit, and PTO; and cited prior art showing "markdown pricing was a long-time practice." Ans. 5–6, 2–3, 12–13. Appellants' conclusory attorney argument that the claims are different from pricing a financial instrument or a contract, without more, is insufficient to demonstrate error. Reply Br. 2. Even the background section of the Specification explains that markdown pricing is a fundamental economic practice: "For a retailer or any seller of products, at some point during the selling cycle a determination will likely need to be made on when to markdown the price of a product, and how much of a markdown to take." Spec. ¶ 2.

The Examiner correctly analogized the present application to *OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015), in which the Federal Circuit found claims directed to "the abstract idea of offer-based price optimization," which is "similar to other 'fundamental economic concepts' found to be abstract ideas." Considered as a whole, the same is true for the price optimization in this case.

Thus, Appellants have not persuaded us that the Examiner erred in determining the claims were directed to an abstract idea.

Step Two

In the second step, we "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78). The Supreme Court has "described step two of this analysis as a search for an 'inventive concept'—*i.e.*, an element or combination of elements that is

sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Id.* (quotation omitted).

Appellants contend the claims provide a "streamline solution" that permits "use of a database instead of an application server," which "clearly changes/improves the functionality of the computer." App. Br. 7–8. Yet Appellants' argument is not commensurate with the scope of the claims, which do not require a database and permit an application server.

We agree with the Examiner that "any improvements . . . are merely with respect to . . . the business-method pricing functionality," not "the technical capabilities of a computer system." Ans. 10. "The problem being addressed here . . . . existed before the era of Internet commerce" and the claimed solution "could also be performed without a computer by simply manually performing the calculations." *Id.* at 12. Thus, unlike *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014), neither the problem nor the solution is "rooted in computer technology." The Examiner analogized this case to *OIP Technologies* (Ans. 12–13), which involved claims "using a computerized system to . . ."; "devices are programmed to . . ."; and "sending . . . electronic messages over a network." 788 F.3d at 1361. The Federal Circuit held that "relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible." *Id.* at 1363. The same is true here.

Appellants further contend the claimed formula in independent claim 1 and dependent claim 4 "provide even more complex mathematical algorithms that improve the performance of the computer." App. Br. 6. In addition to any improvement being directed to pricing rather than computer technology as discussed above, we agree with the Examiner that at least for

independent claim 1, "such mathematical limitations fall within the scope of, and thus are part of, the abstract idea." Ans. 8. "Adding one abstract idea (math) to another abstract idea ([optimizing markdown pricing]) does not render the claim non-abstract." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017). Although Appellants nominally argue dependent claim 4 separately (App. Br. 6), we note the further problem that many of the variables recited in dependent claim 4 and its parent claim 3 have not been defined, such as p_f, θ, I_c, and s. *See also* Spec. ¶¶ 24 (providing an example rather than a definition for "[i]n one embodiment, . . . let . . . $\theta = $ . . ."), 12 (similar for p_f, I_c, and s). As the Supreme Court has said, "if a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." *Parker v. Flook*, 437 U.S. 584, 595 (1978) (quoting *In re Richman*, 563 F.2d 1026, 1030 (CCPA 1977)). The claims in *Flook* related to "a computerized method for using a mathematical formula to adjust alarm limits for certain operating conditions." *Alice*, 134 S. Ct. at 2358 (summarizing *Flook*). This is akin to the present application's updating the value of a price. "In holding that the process was patent ineligible [in *Flook*], we rejected the argument that implementing a principle in some specific fashion will automatically fall within the patentable subject matter of § 101." *Id.* at 2358 (quotations omitted).

We further agree with the Examiner that "the two-step *Alice Corp.* test, not preemption, is the relevant test." Ans. 9. "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). "Where a patent's

claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Id.*

We also agree with the Examiner that the requirements for patentable subject matter (§ 101) are distinct from the requirements of novelty (§ 102) and non-obviousness (§ 103). Ans. 8–9. "[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility." *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981).

Accordingly, we sustain the Examiner's rejection of independent claim 1 and dependent claim 4, and claims 2, 3, 6–13, 15–20, and 22, which Appellants do not argue separately. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

For the reasons above, we affirm the Examiner's decision rejecting claims 1–4, 6–13, 15–20, and 22.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED